

**In the Claims:**

Please amend the claims as follows:

1 1. (Currently Amended) A display controller for providing a luminance value to a  
2 display comprising:

3 an original gamma correction mapping table containing entries describing  
4 a default luminance value to be provided to said display for a  
5 magnitude of a video input signal, said video input signal providing a  
6 default pointer to said default luminance values indicative of said  
7 magnitude;

8 a transformed gamma correction mapping table containing entries  
9 describing transformed luminance values to be provided to said display  
10 for said magnitude of said video input signal, said video input signal  
11 providing a transformed pointer to said transformed luminance values  
12 indicative of said magnitude,

13 a gamma correction transform circuit that receives a new contrast signal  
14 and a new brightness signal, tests if the new contrast signal and the  
15 new brightness signal are respectively equivalent to a default contrast  
16 signal and a default brightness signal wherein:

if the new contrast signal is equivalent to the default contrast  
signal and the brightness signal is equivalent to the  
default brightness signal, said a gamma correction  
transform circuit is in communication with said default  
gamma correction mapping table to designate the default  
gamma correction mapping table for determining said  
luminance values for said display,

if the new contrast signal is not equivalent to the default contrast signal and/or the brightness signal is not equivalent to the default brightness signal, said gamma correction transform circuit transforms entries of said default gamma correction mapping table as a function of the contrast signal and the brightness signal, wherein said gamma correction transform circuit is in communication with said transformed gamma correction mapping table to store said entries to said transformed gamma correction mapping table.

34 in communication with the original gamma correction mapping table to  
35 receive said entries and connected to receive a contrast signal and a  
36 brightness signal and from said contrast signal and brightness signal  
37 transform said entries to transformed luminance values; and

38            ~~a transformed gamma correction mapping table in communication with the~~  
39            ~~gamma correction transform circuit to receive the transformed~~  
40            ~~luminance values, said gamma correction mapping table connected to~~  
41            ~~receive a video signal whereby said video signal provides a pointer to~~  
42            ~~said luminance values.~~

1    2. (Original) The display controller of claim 1 wherein the gamma correction  
2            transform circuit executes the function:

3            
$$G_{\text{new}}(i) = G_{\text{orig}}((i * a) + b)$$

4            where:

5            *i* is a counter representing potential magnitude values of the  
6            video signal,

7             $G_{\text{new}}(i)$  is the transformed value of the luminance value for an  
8            *i*th magnitude,

9            *a* is a magnitude of the contrast signal, and

10            *b* is a magnitude of the brightness signal.

1    3. (Original) The display controller of claim 1 wherein the gamma correction  
2            transform circuit executes the function:

3                    $G_{\text{new}}(i) = G_{\text{orig}}(C_i)$

4                   where:

5                   
$$\begin{aligned} C_i &= b & i &= 0 \\ C_i &= C_{i-1} + a & i &> 0 \end{aligned}$$

6                    $C_i$  is a pointing variable to the luminance values in the original  
7                   gamma correction mapping table,

8                   *i* is a counter representing potential magnitude values of the  
9                   video signal,

10                  *a* is a magnitude of the contrast signal, and

11                  *b* is a magnitude of the brightness signal.

1     4.   (Original) The display controller of claim 1 wherein the gamma correction  
2                   transform circuit is a microcontroller.

1     5.   (Original) The display controller of claim 4 wherein the microcontroller executes a  
2                   program process that performs the function:

3                    $G_{\text{new}}(i) = G_{\text{orig}}((i * a) + b)$

4                   where:

7  **$G_{new}(i)$**  is the transformed value of the luminance value for an  
8 ***i*th magnitude,**

9 *a* is a magnitude of the contrast signal, and

10 ***b*** is a magnitude of the brightness signal.

1 6. (Original) The display controller of claim 4 wherein the microcontroller executes a  
2 program process that performs the function:

$$G\_new(i) = G\_orig(C_i)$$

4 where:

$$\begin{aligned} C_i &= b & i &= 0 \\ C_i &= C_{i-1} + a & i &> 0 \end{aligned}$$

**10** *a* is a magnitude of the contrast signal, and

***b*** is a magnitude of the brightness signal.

1 7. (Original) The display controller of claim 4 wherein the original gamma correction  
2 mapping table is digital data stored in a memory.

1 8. (Original) The display controller of claim 7 wherein the transformed gamma  
2 correction mapping table is digital data stored in the memory.

1 9. (Original) A display control system for providing luminance values to a display  
2 comprising:

3 a microcontroller connected to receive a video signal, a contrast signal,  
4 and a brightness signal; and

5 a memory in communication with the microcontroller to retain default  
6 gamma correction data and transformed gamma correction data;

7 said microcontroller executing a program process comprising the steps of:

<sup>8</sup> receiving a new contrast signal,

9 receiving a new brightness signal,

10 testing if the new contrast signal and the new brightness signal  
11 are respectively equivalent to a default contrast signal and a  
12 default brightness signal,

13 if the new contrast signal is equivalent to the default contrast  
14 signal and the brightness signal is equivalent to the default  
15 brightness signal, designating the default gamma correction  
16 mapping table for determining a luminance value for said  
17 display,

18 if the new contrast signal is not equivalent to the default contrast  
19 signal and/or the brightness signal is not equivalent to the  
20 default brightness signal, transforming the default gamma  
21 correction mapping table as a function of the contrast signal  
22 and the brightness signal,

23 storing the transformed gamma correction mapping table to the  
24 memory, and

25 if the new contrast signal is equivalent to the default contrast  
26 signal and the brightness signal is equivalent to the default  
27 brightness signal, mapping the video signal to determine the  
28 luminance level from the default gamma correction mapping  
29 table,

30 if the new contrast signal is not equivalent to the default contrast  
31 signal and/or the brightness signal is not equivalent to the  
32 default brightness signal, mapping the video signal to

33 determine the luminance level from the transformed gamma  
34 correction mapping table,  
35 generating a luminance signal from the luminance level, and  
36 transferring the luminance signal to the display.

10. (Original) The display control system of claim 9 wherein the function is:

$G\_new(i) = G\_orig((i * a) + b)$

3 where:

6  **$G_{new}(i)$**  is the transformed value of the luminance value for an  
7 ***i*th magnitude,**

8 **a** is a magnitude of the contrast signal, and

**9** ***b** is a magnitude of the brightness signal.*

11. (Original) The display control system of claim 9 wherein the function is:

$$G\_new(i) = G\_orig(C_i)$$

3 where:

4

$$C_i = \begin{cases} b & i = 0 \\ C_{i-1} + a & i > 0 \end{cases}$$

5  $C_i$  is a pointing variable to the luminance values in the original  
6 gamma correction mapping table,

7  $i$  is a counter representing potential magnitude values of the  
8 video signal,

9 *a is a magnitude of the contrast signal, and*

10 *b is a magnitude of the brightness signal.*

1 12. (Original) A method for providing luminance value to a display comprising the  
2 steps of:

3 receiving a new contrast signal,

4 receiving a new brightness signal,

5 testing if the new contrast signal and the new brightness signal  
6 are respectively equivalent to a default contrast signal and a  
7 default brightness signal,

8 if the new contrast signal is equivalent to the default contrast  
9 signal and the brightness signal is equivalent to the default  
10 brightness signal, designating the default gamma correction  
11 mapping table for determining a luminance value for said  
12 display,

13 if the new contrast signal is not equivalent to the default contrast  
14 signal and/or the brightness signal is not equivalent to the  
15 default brightness signal, transforming the default gamma  
16 correction mapping table as a function of the contrast signal  
17 and the brightness signal,

18 storing the transformed gamma correction mapping table to the  
19 memory, and

20 if the new contrast signal is equivalent to the default contrast  
21 signal and the brightness signal is equivalent to the default  
22 brightness signal, mapping the video signal to determine the  
23 luminance level from the default gamma correction mapping  
24 table,

25 if the new contrast signal is not equivalent to the default contrast  
26 signal and/or the brightness signal is not equivalent to the  
27 default brightness signal, mapping the video signal to

28 determine the luminance level from the transformed gamma  
29 correction mapping table,  
30 generating a luminance signal from the luminance level, and  
31 transferring the luminance signal to the display.

1 13. (Original) The method of claim 12 wherein the function is:

`G_new(i) = G_orig((i * a) + b)`

3 where:

6  **$G_{new}(i)$**  is the transformed value of the luminance value for an  
7 ***i*th magnitude,**

**8** *a is a magnitude of the contrast signal, and*

***b*** is a magnitude of the brightness signal.

1 14. (Original) The method of claim 12 wherein the function is:

$$G\_new(i) = G\_orig(C_i)$$

3 where:

4

$$\begin{aligned} C_i &= b & i = 0 \\ C_i &= C_{i-1} + a & i > 0 \end{aligned}$$

5  $C_i$  is a pointing variable to the luminance values in the original

6 gamma correction mapping table,

7  $i$  is a counter representing potential magnitude values of the

8 video signal,

9  $a$  is a magnitude of the contrast signal, and

10  $b$  is a magnitude of the brightness signal.

1 15. (Original) An apparatus for providing luminance value to a display comprising the  
2 steps of:

3 means for receiving a new contrast signal,

4 means for receiving a new brightness signal,

5 means for testing if the new contrast signal and the new  
6 brightness signal are respectively equivalent to a default  
7 contrast signal and a default brightness signal,

8                   means for designating the default gamma correction mapping  
9                   table for determining a luminance value for said display, if  
10                  the new contrast signal is equivalent to the default contrast  
11                  signal and the brightness signal is equivalent to the default  
12                  brightness signal,

13                  means for transforming the default gamma correction mapping  
14                  table as a function of the contrast signal and the brightness  
15                  signal, if the new contrast signal is not equivalent to the  
16                  default contrast signal and/or the brightness signal is not  
17                  equivalent to the default brightness signal,

18                  means for storing the transformed gamma correction mapping  
19                  table to the memory, and

20                  means for mapping the video signal to determine the luminance  
21                  level from the default gamma correction mapping table, if the  
22                  new contrast signal is equivalent to the default contrast  
23                  signal and the brightness signal is equivalent to the default  
24                  brightness signal,

25                  means for mapping the video signal to determine the luminance  
26                  level from the transformed gamma correction mapping table,  
27                  if the new contrast signal is not equivalent to the default

28 contrast signal and/or the brightness signal is not equivalent  
29 to the default brightness signal,

30 means for generating a luminance signal from the luminance  
31 level, and

means for transferring the luminance signal to the display.

1 16. (Original) The apparatus of claim 15 wherein the function is:

$$G\_new(i) = G\_orig((i * a) + b)$$

3 where:

6  **$G_{\text{new}}(i)$**  is the transformed value of the luminance value for an  
7  **$i^{\text{th}}$  magnitude**

**a** is a magnitude of the contrast signal, and

<sup>9</sup> *b* is a magnitude of the brightness signal.

17. (Original) The apparatus of claim 15 wherein the function is:

$$G\_new(i) = G\_orig(C_i)$$

3 where:

4

$$\begin{aligned} C_i &= b & i = 0 \\ C_i &= C_{i-1} + a & i > 0 \end{aligned}$$

5  $C_i$  is a pointing variable to the luminance values in the original  
6 gamma correction mapping table,

7  $i$  is a counter representing potential magnitude values of the  
8 video signal,

9 *a is a magnitude of the contrast signal, and*

10 *b is a magnitude of the brightness signal.*

1 18. (Original) A medium for retaining a computer program which, when executed on  
2 a computing system, executes process for providing luminance value to a display  
3 comprising the steps of:

4 receiving a new contrast signal,

5 receiving a new brightness signal,

6 testing if the new contrast signal and the new brightness signal  
7 are respectively equivalent to a default contrast signal and a  
8 default brightness signal,

9 if the new contrast signal is equivalent to the default contrast  
10 signal and the brightness signal is equivalent to the default  
11 brightness signal, designating the default gamma correction  
12 mapping table for determining a luminance value for said  
13 display,

14 if the new contrast signal is not equivalent to the default contrast  
15 signal and/or the brightness signal is not equivalent to the  
16 default brightness signal, transforming the default gamma  
17 correction mapping table as a function of the contrast signal  
18 and the brightness signal,

19 storing the transformed gamma correction mapping table to the  
20 memory, and

21 if the new contrast signal is equivalent to the default contrast  
22 signal and the brightness signal is equivalent to the default  
23 brightness signal, mapping the video signal to determine the  
24 luminance level from the default gamma correction mapping  
25 table,

26 if the new contrast signal is not equivalent to the default contrast  
27 signal and/or the brightness signal is not equivalent to the  
28 default brightness signal, mapping the video signal to

29                   determine the luminance level from the transformed gamma  
30                   correction mapping table,  
31                   generating a luminance signal from the luminance level, and  
32                   transferring the luminance signal to the display.

1   19. (Original) The medium of claim 18 wherein the function is:

2                    $G_{\text{new}}(i) = G_{\text{orig}}((i * a) + b)$

3                   where:

4                   *i* is a counter representing potential magnitude values of the  
5                   video signal,

6                    $G_{\text{new}}(i)$  is the transformed value of the luminance value for an  
7                   *i*th magnitude,

8                   *a* is a magnitude of the contrast signal, and

9                   *b* is a magnitude of the brightness signal.

1   20. (Original) The medium of claim 18 wherein the function is:

2                    $G_{\text{new}}(i) = G_{\text{orig}}(C_i)$

3 where:

4

$$\begin{aligned} C_i &= b & i &= 0 \\ C_i &= C_{i-1} + a & i &> 0 \end{aligned}$$

5  $C_i$  is a pointing variable to the luminance values in the original

6 gamma correction mapping table,

7  $i$  is a counter representing potential magnitude values of the

8 video signal,

9 *a is a magnitude of the contrast signal, and*

10 *b is a magnitude of the brightness signal.*

21. (Original) The medium of claim 18 wherein said medium is selected from the program storage medium consisting of random access memory, read only memory, magnetic storage devices, and optical storage devices.